SB761
U7I5
#82-10

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

FOREST PEST MANAGEMENT

STATE & PRIVATE FORESTRY

INTERMOUNTAIN REGION

3430
Report No. 82-10
September 1982

BIOLOGICAL EVALUATION OF A PROPOSED DWARF MISTLETOE CONTROL PROJECT ON THE VERNAL RANGER DISTRICT, ASHLEY NATIONAL FOREST, UTAH

By
E. LaGrande Hobbs[1/]

INTRODUCTION

On July 20, 1982, Pathologist LaGrande Hobbs and Biological Technician Paul Fredrick visited the Boulevard area at the South Brownie Creek Road to evaluate this area for a dwarf mistletoe control project. The area has been cut, but infected overstory trees still remain. Thirteen 1/300 acre plots were established along a random line through the area at 2-chain intervals. Overstory and understory trees were counted and any dwarf mistletoe infection on the understory was recorded.

GENERAL INFORMATION

Causal Agent: Lodgepole pine dwarf mistletoe, Arceuthobium americanum.
Host: Lodgepole pine, Pinus contorta.
Type of Damage: Mortality and growth reduction are occurring in the overstory. No growth reduction is occurring in the understory at the present time. However, the potential for extensive growth reduction in the future exists because of the infected overstory.
Stand and Disease Data: On the basis of 13 1/300 acre plots, the area is heavily stocked with about 2,000 understory trees per acre. Many of these trees are shorter than 4.5 feet with an average height of 5 feet and a height range of 6 inches to 16 feet. The average d.b.h. is 1 inch. Approximately five percent of the lodgepole pine in the understory is infected. In most cases only a single branch is infected. There are also non-host trees in the understory (Engelmann spruce and subalpine fir) at a level of 230 trees per acre. The overstory consists of about 115 infected lodgepole pine trees per acre.

1/ Plant Pathologist, Forest Pest Management, Ogden, Utah

LIBRARY COPY
ROCKY MT. FOREST & RANGE
EXPERIMENT STATION

DISCUSSION

If this area is to be productive it should be kept as free of dwarf mistletoe as possible. In order to accomplish this the infected overstory should be removed as soon as possible. The understory is already being infected to some extent. However, most of the trees are still too small to have been infected as yet. As these trees continue to grow the infection level can be expected to intensify. When young trees become infected there is little chance of their growing to commercial size. The understory is overstocked at the present time with 2,000 host trees and 230 non-host trees per acre. For good growth, thinning will be necessary. During thinning, dwarf mistletoe infected trees should be cut and as many non-host trees as possible should be left to help minimize the spread of the disease.

RECOMMENDATIONS

It is recommended that a dwarf mistletoe control project be carried out on this area for removal of infected overstory. Five years after the removal of the infected overstory, the regeneration should receive a sanitation-thinning to minimize the infection rate in the regeneration and ensure a clean, productive stand.